ICS第二次书面作业

`2.88`

格式A		格式B	
位	值	位	值
1 01110 001	$\frac{-9}{16}$	1 0110 0010	$\frac{-9}{16}$
0 10110 101	208	0 1110 1010	208
1 00111 110	$\frac{-7}{1024}$	1 0000 0110	$\frac{-7}{1024}$
0 00000 101	$\frac{5}{2^{17}}$	0 0000 0000	0
1 11011 000	-2^{12}	1 1111 0000	-inf
0 11000 100	768	0 1111 0000	+inf

`2.92`

> Compute -f. If f is Nan, then return f.

```
typedef unsigned float_bits;

float_bits float_negate(float_bits f) {
    unsigned exp  = f >> 23 & 0x0000FF;
    unsigned frac = f       & 0x7FFFFF;

    if (exp == 0xFF && frac != 0x00)
        return f;
    else
        return f ^ 0x80000000;
}
```

`2.96`

> Compute (int) f.
>
> If conversion causes overflow or f is Nan, return 0x80000000

```
typedef unsigned float_bits;

int float_f2i(float_bits f) {
    int sign = f >> 31;
    int exp  = f >> 23 & 0x0000FF;
    int frac = f       & 0x7FFFFF;
    int NaN  = 0x80000000;
```

```
    int Ans  = 0;

    if (exp >= 0x9E) return NaN;
    if (exp <= 0x7E) return   0;

    exp  = exp  - 0x00007F;       ;
    frac = frac + 0x800000;

    if (exp >= 23)
        Ans = (frac << exp - 23) ^ (~sign + 1);

    if (exp <= 23)
        Ans = (frac ^ (~sign + 1)) >> 23 - exp;

    return Ans + sign;
}
```